

REMARKS

Claims 1-7 are pending in the application. Claim 1 is amended to recite “said battery separator having a capacity retention of about 72% or greater”. Support can be found, for example, at page 25, Table 1, of the specification as originally filed. No new matter is added.

Entry of the amendment along with reconsideration and review of the remaining pending claims is respectfully requested.

Formal Matter

Applicants appreciate that the Examiner has approved the formal drawings filed December 4, 2001.

Allowed Claims

Applicants appreciate that the Examiner indicates that Claims 6 and 7 are allowed.

Claim Rejections - 35 U.S.C. § 103

A. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Otani et al. (JP 2000-223106) in view of Amano et al. (US 5,416,149), and further in view of Nakamura et al. (EP 0805172 A2) for the reasons of record.

B. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kung (US 5,389,471) in view of Amano et al. (US 5,416,149), and further in view of Nakamura et al. (EP 0805172 A2) for the reasons of record.

Applicants respond as follows.

As discussed above, Claim 1 is amended to recite “said battery separator having a capacity retention of about 72% or greater”. This is an element of the claimed invention which attributes to unexpectedly superior results in capacity retention.

The present invention provides a battery separator wherein a polycarbodiimide is applied to a porous sheet substrate. When such a battery separator is used in a cell, it exhibits an unexpected self-discharge inhibition. In particular, the results in the specification at Table 1, page 25, demonstrate that when porous sheets formed having polycarbodiimide structural units according to the present invention are used as battery separators, then the self-discharge of the cells is considerably inhibited. Table 1 gives values for the Capacity Retention (%) of battery separators as defined at page 14, lines 12-15. The embodiments of the present invention have unexpectedly superior high Capacity Retention of 72% or greater. On the other hand, the comparative examples express a maximum Capacity Retention no higher than 56%.

For each of the obviousness rejections citing the combination of Otani or Kung with Amano and Nakamura, Applicants respectfully submit that the combinations of these references fail to render obvious at least the element in Claim 1 of capacity retention being about 72% or greater. Claims 2-5 are dependent on Claim 1 and are therefore patentable for at least the same reason.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a).

AMENDMENT UNDER 37 C.F. R. § 1.111

U.S. Application No. 09/980,496

Q66626

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

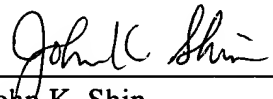
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